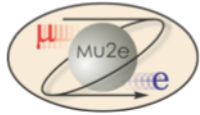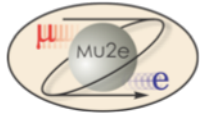# Sim&Soft Status and Plans

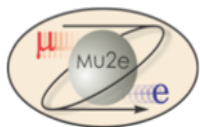Rob Kutschke, Fermilab
February 3, 2010

Annoucements

- ilcsim is up again.
- Downtime for /grid/data 6 AM to 8 AM tomorrow (Thur March 18).

Recent Work

- ## Committed code:
  - ### See Offline/ReleaseNotes/v0_0_8
    - Some changes will break the ability to read old files.
  - ### RandomNumberService
  - ### Daya Bay model of cosmic ray muons.
  - ### Event generator config:
    - bool xxxx.do = true;

- ## In a day or so:
  - ### Save G4 history to the event-data file.
  - ### Save some G4 geometry info too.
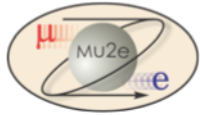 - ### HepPDT (for names, masses etc by PDG code)

Random Number Service

```
process.add_(mu2e.Service("RandomNumberService",
              globalSeed=mu2e.untracked.int32(9877)
))
```

```
process.add_(mu2e.Service("RandomNumberService",
        restoreStateLabel=mu2e.untracked.string("randomsaver"),
        debug=mu2e.untracked.bool(True)
))
```
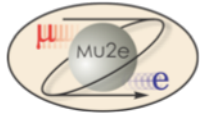
```
edm::Service<RandomNumberGenerator> rng;
engine = rng->getEngine();
static RandGaussQ(engine, mean, sigma);
```

Random Number Service

- For now just does CLHEP singleton engine
- Future:
  - Unique engine per module instance
  - http://mu2e.fnal.gov/atwork/computing/Random.shtml
- Examples:
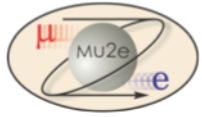 - RandomNumberService/test/*.py

Enabling Event Generators

- In the generator config file:

```
// Which generators to enable.
bool conversionGun.do = true;
bool cosmictoy.do     = true;
bool cosmicDYB.do     = false;
bool picapture.do     = true;
```
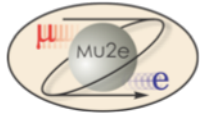
- Also set the mean number of particles per event for each.
- Example: Mu2eG4/test/genconfig_02.txt

Daya Bay Cosmic Muons

- 2D distribution in energy and cos(theta)
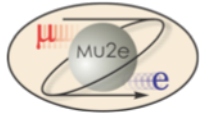- for Emin <1 GeV it initializes very, very slowly.
- Current default is 3 GeV.

ToyDP/inc/GenId.hh

- Please do not insert items in the middle of the enum.

- Append them instead.

- OK to rename the placeholders that have been left there.

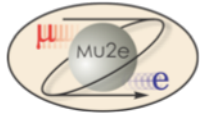- If you want to reserve some names, let me know and I will add them now.
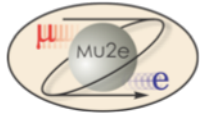
Source Browser For Framework

- http://oink.fnal.gov:8080/source/xref/mu2e/

- On getting started page:
  - Added links for code browsers for Mu2e, Framework, G4, CLHEP,

Getting Tabs out of our Source Files

- I would like is to stop using tabs in our source files
  - See: http://mu2e.fnal.gov/atwork/computing/emacsHints.shtml
- As I edit files for other reasons I will make this change.

CD News

- Lynn Garren (FNAL CD)
  - Improve our code distribution, build system, releases
  - Check out just a few packages and link against a base release.
  - CMakeLists.txt
    - For the cmake build system.
    - Ignore them for now.
    - Cmake is a candidate to replace scons
- Soon either Krzysztof Genser or Hans Wenzel will be available to work on G4